# **IoT** LoRa Node pHAT

## Description

LoRa (Long Range) is the smart, long-range, wireless transmission technology that is enabling the future of IoT (Internet of Things).

Our IoT LoRa Node pHAT allows you to create an inexpensive LoRa node, compatible with The Things Network, in conjunction with a Raspberry Pi or other single board computers. This pHAT allows quicker prototyping as it has the LoRa stack on the chip. Add sensors, buttons and more to complete your LoRa network!

The IoT LoRa Node pHAT uses the RAKWireless RAK811 LoRa node module which is based on Semtech SX1276 LoRa technology.

The board can be configured to use the different frequencies listed below:

- EU 863 – 870 MHz
- US 902 – 928 MHz
- AU 915 – 928 MHz
- AS 923 MHz
- IN 865 – 867MHz
- KR 920 MHz

## Features

- Uses RAK811 LoRa Radio with full LoRaWAN Stack embedded
- Communicates with the Raspberry Pi over UART only using a total of 3 GPIO Pins for the module.
- Supports LoRaWAN Connections and LoRaP2P Modes.
- u.FL connector and antenna allowing different antennas to be used or integrated into boxes with external antennas.
- Low power – uses less than 50mA During transmission

## Compatible with

- Raspberry Pi A+
- Raspberry Pi B+
- Raspberry Pi 2B
- Raspberry Pi 3B
- Raspberry Pi 3B+
- Raspberry Pi Zero
- Raspberry Pi Zero W
- Plus any other Raspberry Pi with 40 GPIO Pins

Pi Supply
The Maker Emporium

# What is The Things Network?

The Things Network Is a rapidly growing LoRaWAN Provider that is increasing coverage constantly through-out the UK and Worldwide, the benefit of using a public network is devices that you build in one area of the UK will work in any area of the UK or even the EU as long as you're within Coverage! Not got coverage? You can setup your own gateway (such as our IoT LoRa Gateway HAT for Raspberry Pi) for you and others to use and increase the coverage at the same time. The Things Network offers a commercial plan but more importantly the free to use community plan as standard.

# What's Inside?

- IoT LoRa Node pHAT
- Mounting Hardware
- Info card

- RAK811 Pre-assembled
- Stickers